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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,899	01/30/2004	Kazunori Onabe	06920/100L587-US1	7943
7278	7590	07/13/2004	EXAMINER	
DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257			COOKE, COLLEEN P	
			ART UNIT	PAPER NUMBER
			1754	

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/768,899

Applicant(s)

ONABE ET AL.

Examiner

Colleen P Cooke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiga et al. (4994435).

Shiga et al. teaches (in Figure 1) a substrate comprising a noble metal layer (2) formed on a substrate (1). Shiga et al. teaches that the noble metal layer is desirably Ag (Column 4, lines 30-37, 52-54) and has a thickness of 0.01- 10 μm (Column 4, lines 26-27). The common endpoint of 10 μm anticipates the instantly claimed the range of 10-100 μm and also anticipates the claimed range of 5-10 μm . Shiga et al. further teaches it may be desirable to use an additional layer of Pd or Pt between the substrate and the Ag layer (Column 7, lines 8-10).

Claims 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Goyal et al. (5739086).

Goyal et al. teaches an epitaxial layer formed on a substrate with an optional barrier layer between the two (Column 5, lines 37-39) and further specifically teaches that a thin layer of Pd or Pt may be deposited prior to the Ag layer (Column 11, lines 12-14, 18-20, and 47-49). Goyal et al. further teaches in one example which does not use any intervening layer that the Ag

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thickness is 100 μ m (Column 9, line 40) and in another two examples which do use intervening layers the Ag thickness is 35 μ m (Column 11, line 32) and 1 μ m (Column 11, lines 48-49).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiga et al. (4994435).

Shiga et al. teaches the layered structure as described above which particularly has a noble metal layer thickness of 0.01- 10 μ m (Column 4, lines 26-27) which shares a common endpoint with the claimed range. For the portions of the range not anticipated by Shiga et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the thickness of the Ag layer, since it has been held that discovering an optimum value or a result effective variable involved only routine skill in the art. In re Boesch, 617 F.2nd 272, 205 USPQ 215 (CCPA 1980). The artisan would have been motivated to optimize the thickness of this layer by the reasoned explanation that Shiga et al. teaches that the thickness of the barrier layer serves to provide a barrier which protects the superconductor (Column 4, lines 12-15, 26-29) and also control O₂ permeation of the superconductor (Column 4, lines 43-66). Thus Shiga et al. teaches that the thickness of the Ag layer is a result effective variable as it directly influences the quality of the final superconductor. In addition, the singular example of Ag

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thickness taught by Shiga et al. is so close that one skilled in the art would have expected it to have the same properties. *Titanium Metals Corp. v. Banner*, 227 USPQ 773.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colleen P Cooke whose telephone number is 571-272-1170. She can normally be reached Mon.-Thurs. 7am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, her supervisor, Stan Silverman can be reached at 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Colleen P. Cooke 7/9/14

Colleen P Cooke
Examiner
Art Unit 1754